REMARKS

This responds to the Office Action mailed on February 6, 2008. Claims 1, 4-5, 7-9, 11-12, 14, 17, 19, 20, 24, 27-28, 31-32, 34-35 and 38-39 have been amended. Claims 1-40 are now pending in this application.

Claim Objections

Claim 31 was objected to due to informalities. In the last line, "acknowledgments" is plural when it should be singular. Claims 1-40 were objected to due to inconsistent spelling of the word "acknowledgment". Applicant has amended the claims as suggested by the Office. Accordingly, Applicant respectfully requests that the objections be withdrawn.

§112 Rejection of the Claims

Claims 34-40 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness. The Office requested a definition of computer storage medium. Applicant has amended the specification as suggested by the Office. Accordingly, Applicant respectfully requests that the rejection under 35 U.S.C. § 112, second paragraph be withdrawn.

§103 Rejection of the Claims

Claims 1-40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hughes et al. (U.S. 6,427,193; hereinafter "Hughes") in view of Ghose et al. (U.S. Publication Number 2002/0004842; hereinafter "Ghose").

A) The Applicable Law under 35 U.S.C. §103

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness.[1] First and foremost, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.[2] In combining prior art references to construct a *prima facie* case, the Examiner must show some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art that would

[1] *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988).
[2] *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); M.P.E.P. § 2143.03.

lead an individual to combine the relevant teaching of the references.[3] The M.P.E.P. contains explicit direction to the Examiner that agrees with the *In re Fine* court:

> In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.[4]

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference.[5] However, while it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching.[6] However, the level of skill is not that of the person who is an innovator but rather that of the person who follows the conventional wisdom in the art.[7] The requirement of a suggestion or motivation to combine references in a *prima facie* case of obviousness is emphasized in the Federal Circuit opinion, *In re Sang Su Lee*, 277 F.3d 1338; 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002), which notes that the motivation must be supported by evidence in the record.

The test for obviousness under ' 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention.[8] References must be considered in their entirety, including parts that teach away from the claims.[9] The fact that references can be combined or modified does not

---

[3] *In re Fine* at 1598.
[4] *M.P.E.P.* ' 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).
[5] *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d (BNA) 1443 (Fed. Cir. 1992).
[6] (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 U.S.P.Q.2d 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 U.S.P.Q. 171, 174 (C.C.P.A. 1979)).
[7] *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 474, 227 U.S.P.Q. 293, 298 (Fed. Cir. 1985).
[8] *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985).
[9] See MPEP ' 2141.02.

render the resultant combination obvious unless the prior art also suggests the desirability of the combination.[10]

Recently, the Supreme Court reaffirmed the validity of the "teaching, suggestion, motivation" test in *KSR Int'l Co. v. Teleflex Inc.*, No. 04-1350 (U.S. Apr. 30, 2007) and guidance provided in a PTO Memo of May 3, 2007 recognizes this holding. In addition, the PTO Memo of May 3, 2007 indicated that "analysis supporting a rejection under 35 U.S.C. § 103(a) should be made explicit," citing the Court's decision.

B) Discussion of the rejection of claims 1-40 under 35 U.S.C. § 103(a) as being unpatentable over Hughes and Ghose.

Non-Analogous Art/Impermissible Hindsight

With regard to claims 1-40, Applicant respectfully submits that it is generally improper to attempt to combine non-analogous references in an attempt to make a showing of obviousness. *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992) (holding "[t]he combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness"). Hughes and Ghose come from vastly disparate technical arts and could not reasonably be combined by one with ordinary skill in the art.

In particular, Hughes relates to "load/store units within processors." Hughes at column 1, lines 6-7. Ghose relates to "digital packet transmission" (i.e., "byte stream transport in communication environments"). Ghose at paragraph [0003].

In contrast, the pending claims relate to access of memory by a processor. For example, claim 9 recites "a functional unit to attempt to access data from memory coupled to the processor based on an access request, wherein the functional unit is to retry attempts to access of the data based on other access requests after receipt of a negative acknowledgement in response to the attempt to access the data." Applicant submits that the art of network communications is nonanalogous to the art of memory access by a processor. MPEP 2141.01(a) sets forth an example of different uses for a particular type of memory that were considered nonanalogous.

[10] *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990); M.P.E.P. ' 2143.01.

Specifically, MPEP 2141.01(a) cited *Wang* as an example of nonanalogous art for the electrical arts. In *Wang*, single in-line memory modules (SIMMS) "for installation on a printed circuit motherboard for use in personal computers" was not analogous to SIMMS in an industrial controller. Thus, if two different fields of use for a same type of memory are nonanalogous, Applicant submits that art related to memory access is not analogous to art for network communications. Furthermore, the cited references solve different problems. Hughes solves a problem related to deadlocking in a multi-processor environment. Ghose solves a problem related to reliable transport of data in a network environment. Thus, the references are not solving a similar problem.

Because Hughes and Ghose are non-analogous art such that impermissible hindsight would be required for their combination, Appellant respectfully submits that no *prima facie* case of obviousness exists with respect to these claims. Accordingly, Appellant respectfully requests reversal of this basis of rejection of claims 1-40.

Combining the References Does Not Teach All Limitations:

Claims 1-3, 5, 6, 8-10, 12-15, 17-20, 27-40

With regard to claim 1, among the differences, claim 1 recites "a congestion detection logic to output a signal that indicates that the resource is congested based on receipt of a consecutive number of negative acknowledgments in response to access requests to the resource." The Office indicated that this limitation is disclosed by Ghose at paragraph 154.

Applicant respectfully traverses this assertion. This section of Ghose does not disclose or suggest congestion based on receipt of a consecutive number of negative acknowledgements in response to access requests. In contrast, this section of Ghose relates to delaying credits to a sender of data "if a predetermined number of NACKS (negative acknowledgements) have been sent by the receiver (of the data)." Ghose at paragraph 154. In other words, this section of Ghose relates to delaying credits related to controlling congestion of data transmission if some number of NACKS are received. Moreover, this section of Ghose does not disclose or suggest any type tracking based on a consecutive numbers of negative acknowledgements.

Furthermore, this section of Ghose does not disclose or suggest this congestion is in response to access requests to a resource. Rather, the system of Ghose relates to transmission of data and receiving NACKs from the receiver if the data is not received. Thus, the cited references do not disclose or suggest all of the claim limitations. Accordingly, Applicant respectfully submits that the rejection of claim 1 under 35 U.S.C. §103 has been overcome. Because claims 2-3 depend from and further define claim 1, Applicant respectfully submits that the rejection of claims 2-3 has been overcome for at least the same reason.

With regard to claim 5, among the differences, claim 5 recites "a congestion detection logic to detect congestion of access of the data based on receipt of a consecutive number of negative acknowledgments that exceed a threshold prior to access of the data." Based on the remarks set forth above regarding claim 1, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 5 under 35 U.S.C. §103 has been overcome. Because claim 6 depends from and further defines claim 5, Applicant respectfully submits that the rejection of claim 6 has been overcome for at least the same reason.

With regard to claim 8, among the differences, claim 8 recites "a congestion control logic to disable the functional unit from attempts to access the cache line for a time period after congestion is detected. Based on the remarks set forth above regarding claim 1, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 8 under 35 U.S.C. §103 has been overcome. Because claims 9-10 depends from and further defines claim 8, Applicant respectfully submits that the rejection of claims 9-10 has been overcome for at least the same reason.

With regard to claim 12, among the differences, claim 12 recites "wherein the first processor includes a congestion detection logic to detect congestion of access to the data based on receipt of a consecutive number of negative acknowledgements in response to the access requests." Based on the remarks set forth above regarding claim 1, Applicant respectfully

submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 12 under 35 U.S.C. §103 has been overcome. Because claims 13-15 depends from and further define claim 12, Applicant respectfully submits that the rejection of claims 13-15 has been overcome for at least the same reason.

With regard to claim 17, among the differences, claim 17 recites "a congestion detection logic to detect congestion of access of the resource based on a consecutive number of negative acknowledgements received in response to the access requests prior to receipt of a positive acknowledgment in response to one of the access requests within a first time period." Based on the remarks set forth above regarding claim 1, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 17 under 35 U.S.C. §103 has been overcome. Because claims 18-20 depends from and further define claim 17, Applicant respectfully submits that the rejection of claims 18-20 has been overcome for at least the same reason.

With regard to claim 27, among the differences, claim 27 recites "detecting congestion of the data based on receipt, by the first processor, of a consecutive number of negative acknowledgements that exceed a first threshold, prior to receipt, by the first processor, of a positive acknowledgment." Based on the remarks set forth above regarding claim 1, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 27 under 35 U.S.C. §103 has been overcome. Because claims 28-30 depends from and further define claim 27, Applicant respectfully submits that the rejection of claims 28-30 has been overcome for at least the same reason.

With regard to claim 31, among the differences, claim 31 recites "detecting that a consecutive number of negative acknowledgements exceeds a first threshold within a time period, prior to receiving a positive acknowledgments." Based on the remarks set forth above regarding claim 1, Applicant respectfully submits that the cited references do not disclose or

suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 31 under 35 U.S.C. §103 has been overcome. Because claims 32-33 depends from and further define claim 31, Applicant respectfully submits that the rejection of claims 32-33 has been overcome for at least the same reason.

With regard to claim 34, among the differences, claim 34 recites "detecting congestion of the data based on receipt, by the first processor, of a consecutive number of negative acknowledgements that exceed a first threshold, prior to receipt, by the first processor, of a positive acknowledgment." Based on the remarks set forth above regarding claim 1, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 34 under 35 U.S.C. §103 has been overcome. Because claims 35-37 depends from and further define claim 34, Applicant respectfully submits that the rejection of claims 35-37 has been overcome for at least the same reason.

With regard to claim 38, among the differences, claim 38 recites "detecting that a consecutive number of negative acknowledgements exceeds a first threshold within a time period, prior to receiving a positive acknowledgments." Based on the remarks set forth above regarding claim 1, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 38 under 35 U.S.C. §103 has been overcome. Because claims 39-40 depends from and further define claim 38, Applicant respectfully submits that the rejection of claims 39-40 has been overcome for at least the same reason.

Claims 4, 7, 11, 16, 21

In addition to the remarks set forth above regarding claim 1 from which claim 4 depends, Applicant respectfully submits the following remarks. With regard to claim 4, among the differences, claim 4 recites "wherein the congestion control logic is to exponentially decrease the delay after the congestion detection logic receive a number of positive acknowledgements in response to access requests to the resource." The Office indicated that this limitation is disclosed

by Hughes in the Abstract. Applicant respectfully traverses this assertion. This section of Hughes relates to increasing "at an exponential rate" not decreasing. In particular, this section of Hughes relates to increasing at an exponential rate the backoff time interval (during such interval the processor does not attempt to obtain ownership of the cache).

Thus, this section of Hughes relates to increasing – not decreasing in delay. Thus, the cited references do not disclose or suggest all of the claim limitations. Accordingly, Applicant respectfully submits that the rejection of claim 4 under 35 U.S.C. §103 has been overcome.

With regard to claim 7, among the differences, claim 7 recites "wherein the congestion control logic is to exponentially decrease the time period after the congestion detection logic receives a number of positive acknowledgements in response to attempts to access data in the memory." Based on the remarks set forth above regarding claim 4, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 7 under 35 U.S.C. §103 has been overcome.

With regard to claim 11, among the differences, claim 11 recites "wherein the congestion control logic is to exponentially decrease the time period after the congestion detection logic receives a number of positive acknowledgements in response to attempts to access other cache lines in the cache memory." Based on the remarks set forth above regarding claim 4, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 11 under 35 U.S.C. §103 has been overcome.

With regard to claim 16, among the differences, claim 16 recites "wherein the congestion control logic is to disable the first processor from transmitting the access requests for a time period, wherein the time period is based on an exponential back off delay operation." Based on the remarks set forth above regarding claim 4, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 16 under 35 U.S.C. §103 has been overcome.

With regard to claim 21, among the differences, claim 21 recites "wherein the congestion control logic is to disable the load/store unit from attempts to access the resource for a second time period, wherein the second time period is based on an exponential back off delay

operation." Based on the remarks set forth above regarding claim 4, Applicant respectfully submits that the cited references do not disclose or suggest all of the claim limitations. Therefore, Applicant respectfully submits that the rejection of claim 21 under 35 U.S.C. §103 has been overcome.

Claims 22-26

With regard to claim 22, among the differences, claim 22 recites "a congestion detection logic to detect congestion of access of a first cache line of the number of cache lines based on a ratio of a number of negative acknowledgments to a number of positive acknowledgments received in response to the access requests." In addition to the remarks regarding claim 1, Applicant submits the following remarks.

The Office indicated that this limitation is disclosed by Ghose at paragraph 154. Applicant respectfully traverses this assertion. As described above, this section of Ghose relates to delaying credits related to controlling congestion of data transmission if some number of NACKS are received. This section of Ghose does not disclose or suggest the use of positive acknowledgements. Specifically, this section of Ghose does not disclose or suggest the ratio of a number of negative acknowledgments to a number of positive acknowledgments (as recited in claim 22).

Thus, the cited references do not disclose or suggest all of the claim limitations. Accordingly, Applicant respectfully submits that the rejection of claim 22 under 35 U.S.C. §103 has been overcome. Because claims 23-26 depend from and further define claim 22, Applicant respectfully submits that the rejection of claims 23-26 has been overcome for at least the same reason.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 371-2103 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 371-2103

Date August 6, 2008 By

Gregg A. Peacock
Reg. No. 45,001

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 6 day of August 2008.

Zhakalazky M. Carrion

Name

Signature